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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/518,639	03/03/2000	Tatsuo Enami	VX002097	5836

7590 02/12/2003

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EXAMINER

ZAHN, JEFFREY N

ART UNIT PAPER NUMBER

2828

DATE MAILED: 02/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/518,639

Applicant(s)

ENAMI ET AL.

Examiner

Jeffrey N Zahn

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.



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Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 10. 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 12-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

1) It is unclear/vague how the first, second and third valves are positioned within the claimed device. In addition, 2) The Applicant has claimed "a xenon gas piping for connecting the xenon gas piping." This is unclear and vague as to what is being claimed. Finally, 3) it is also unclear and vague what a "mixture piping" is as claimed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hofmann et al. (US 6014398) in view of Bedwell (US 5090020).

Hofmann et al. discloses an ArF excimer laser (abstract) which causes an electric discharge between discharging electrodes to excite a laser gas (implicit of excimer laser) consisting of a halogen gas (col. 3, lines 39- 52), a rare gas (col. 3, lines

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39- 52), and a buffer gas (col. 3, lines 39- 52), and oscillates a narrow-banded laser light (abstract).

Hofmann et al lacks a buffer gas contained in the laser gas mainly consisting of He. Bedwell teaches an ArF excimer laser that includes a laser gas mixture that contains 99% Helium as a buffer gas. It is well known in the art that He is an appropriate buffer gas for ArF Excimer lasers to facilitate the transfer of energy to the rare gas to enable lasing. Therefore, it would have been obvious to one of ordinary skill in the art of lasers at the time of the invention to combine Hofmann et al. and Bedwell to produce an ArF excimer laser.

Regarding Claim 9, Hofmann et al. discloses the addition of small quantities of Xenon gas to ArF lasers to improve energy dose control at 500-2000hz. (abstract)

Regarding Claim 10 and 11, Hofmann et al. discloses that ArF excimer lasers are used as a scanning type exposure device (Fig. 1; see also col. 1, line 10 - col. 2, line 21) that performs exposure of a semiconductor chip on a wafer by moving the wafer while irradiating a pulsed laser light to each of plurality of irradiation regions smaller than an area of the semiconductor chip.

Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hofmann et al. (US 6014398) in view of the Applicants Admitted Prior Art.

Hofmann et al. discloses an ultraviolet laser device for oscillating pulsed laser (abstract) by adding a 6-10ppm of xenon gas (abstract) to gas for ultraviolet laser

introduced into a chamber and causing pulse oscillation in the chamber so as to excite the gas for ultraviolet laser to oscillate the pulsed laser (col. 2, lines 24-42).

The Applicant admits that the prior art includes an ultraviolet laser device comprising a xenon gas cylinder in which gas is sealed (page 5, lines 18-28), and an ultraviolet laser gas cylinder in which the gas for ultraviolet laser is sealed (page 5, lines 18-28) and an ultraviolet laser gas supply piping for connecting the ultraviolet laser gas cylinder and the chamber (page 5, lines 18-28). These claimed features are required to deliver gas to an excimer laser apparatus. (page 5, lines 18-28) Therefore, it would have been obvious to one of ordinary skill in the art to combine the disclosure of Hoffman et al. to include these claimed features.

Response to Arguments

Applicant's arguments filed 06 September 2002 have been fully considered but they are not persuasive. Specifically, the Applicant makes the argument that Bidwell does not suggest that Xe is added to the laser gas. This argument is not persuasive because Bidwell comprises a laser gas that includes a rare gas selected from a group that includes Xenon. (col. 3, lines 39-52).

The remaining argument the Applicant has submitted are not relevant in light of the new grounds of rejection for the subject matter of Claims 12-14.

Conclusion

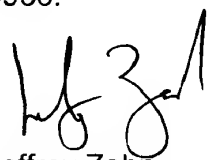
Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey N Zahn whose telephone number is 703-305-3443. The examiner can normally be reached on M-F: 8:30-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on 703-308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.


Jeffrey Zahn
February 3, 2003


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